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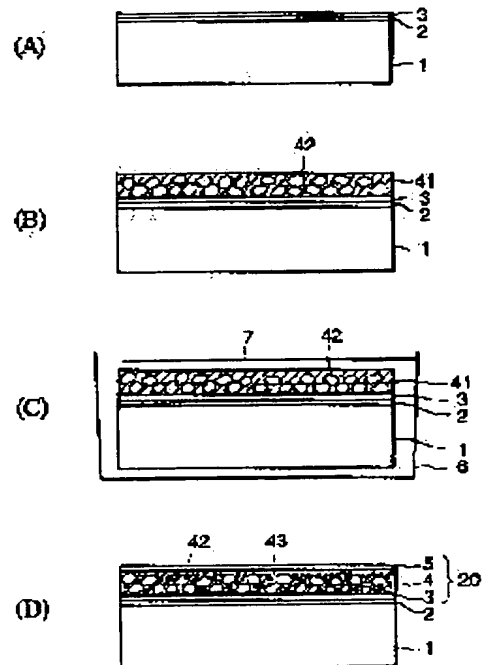
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(54) PIEZOELECTRIC ACTUATOR, INK-JET RECORDING HEAD, MANUFACTURE OF THEM AND INK-JET PRINTER

(57)Abstract:

PROBLEM TO BE SOLVED: To realize manufacture of a piezoelectric actuator by an application method under a low temperature environment, and to make a piezoelectric film thick, and to provide a piezoelectric film whose practical use is high by combining the advantages of a plural kinds of materials.

SOLUTION: In a piezoelectric actuator 20, equipped with a laminated structure constituted of an upper electrode 5, a piezoelectric film 4, and a lower electrode 3, the piezoelectric film 4 is constituted of a first piezoelectric ceramics particle group 42 and a second piezoelectric ceramics particle group 43. The size of each particle constituting the first piezoelectric ceramics particle group 42 is made larger than the



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